DEPARTMENT OF THE INTERIOR
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UNITED STATES GEOLOGICAL SURVEY
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THE PRODUCTION OF SPELTER IN THE UNITED STATES IN 1916

BY

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WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

PRODUCTION OF SPELTER IN THE UNITED STATES IN 1916.

[In tons of 2,000 pounds.]

SUMMARY.

	1915	1916	Increase in 1916. Quantity.	Per cent.
Production of primary spelter [a] in United States	489,519	667,456	177,937	37
Consumption of primary spelter in United States	364,382	458,428	94,046	26
Value of primary spelter produced in United States	[b] $121,401,000	[b] $178,878,000	$57,477,000	47

PRODUCTION OF PRIMARY SPELTER.

Apportioned according to source of ore.

United States:	1908	1909	1910	1911	1912	1913	1914	1915	1916
Total domestic	190,749	230,225	252,479	271,621	323,907	337,252	343,418	458,135	563,451
Foreign:									
Canada	2,425	978	3,304	1,598	4,199	1,424	4,538	5,103	24,376
Mexico	17,250	24,557	13,401	13,307	10,700	6,205	5,093	13,943	20,694
Europe	.....	.....	.....	.....	.....	1,175	.....	1,073	12,379
Africa	.....	.....	.....	.....	.....	.....	.....	.....	2,016
Asia	.....	.....	.....	.....	.....	620	.....	1,030	1,905
Australia	.....	.....	.....	.....	.....	.....	.....	10,235	41,958
Other countries	.....	.....	.....	.....	.....	.....	.....	.....	677
Total foreign	19,675	25,535	16,705	14,905	14,899	9,424	9,631	31,384	104,005
Grand total	210,424	255,760	269,184	286,526	338,806	346,676	353,049	489,519	667,456

Apportioned according to locality in which smelted.

Illinois	50,244	67,653	73,038	83,130	88,397	106,654	127,946	159,958	181,433
Kansas	99,298	103,299	105,697	98,413	101,104	74,106	44,510	101,423	141,286
Oklahoma	14,864	28,782	34,760	46,315	76,925	83,214	91,367	109,208	168,206
Other States	46,018	56,026	55,689	58,668	72,380	82,702	89,226	118,930	176,531
Total	210,424	255,760	269,184	286,526	338,806	346,676	353,049	489,519	667,456

PRODUCTION OF SECONDARY ZINC.

Secondary spelter, redistilled	7,159	9,273	12,784	14,043	26,064	25,991	20,545	29,764	29,663
Secondary spelter, remelted	9,811	23,767	28,439	26,470	26,187	24,014	22,424	23,136	(c)
Recovered zinc in alloys, excluding old brass remelted	665	1,181	2,709	3,223	3,912	3,743	3,914	5,300	(c)

CONSUMPTION OF PRIMARY SPELTER.

Supply:									
Stock, Jan. 1:									
In bonded warehouses	2	9	39	31	32	48	.....	111	32
At smelters	26,364	19,613	11,167	23,201	9,049	4,474	40,659	19,984	14,221
Production:									
From domestic ore	190,749	230,225	252,479	271,621	323,907	337,252	343,418	458,135	563,451
From foreign ore	19,675	25,535	16,705	14,905	14,899	9,424	9,631	31,384	104,005
Imports	881	9,454	1,960	609	11,115	6,100	880	904	684
Total available	237,671	284,836	282,350	310,367	359,002	357,298	394,588	510,518	682,393
Withdrawn:									
Exports, foreign, from warehouse	8	334	4,758	11,276	6,286	6,027	5,580	12,776	43,230
Exports, foreign, under drawback	1,234	.....	4,486	3,079	1,219	7,459	4,981	255	.....
Exports, domestic	2,640	2,566	3,990	6,872	6,634	7,783	64,807	118,603	163,137
Stock, Dec. 31:									
In bonded warehouses	9	39	31	32	48	.....	111	32	90
At smelters	19,613	11,167	23,201	9,049	4,474	40,659	19,984	14,221	17,508
Total withdrawn	23,504	14,106	36,466	30,308	18,661	61,928	95,463	145,887	223,965
Apparent consumption	214,167	270,730	245,884	280,059	340,341	295,370	299,125	365,438	458,428

EXPORTS OF DOMESTIC ZINC ORE AND DROSS.

Zinc ore	26,108	12,455	19,711	18,281	23,349	17,713	11,110	832	78
Zinc dross	8,405	7,069	4,729	4,246	205	28	2,526	4,167	48

IMPORTS OF ZINC ORE AND ZINC DUST.

Zinc ore	53,757	114,850	72,626	39,116	43,940	31,416	31,962	158,852	385,964
Zinc content	.....	.....	25,439	15,933	17,567	13,497	12,132	57,669	148,147
Zinc dust	.....	.....	.....	.....	.....	2,191	2,302	856	934

[a] Primary spelter is made directly from ore, but secondary spelter is recovered from such sources as drosses, skimmings, and old metals.
[b] Value calculated from average selling price.
[c] Subject to revision.

NOTE.—Imports and exports of spelter are given under the heading "Consumption." The imports of spelter in 1909–1916 are as given in the December Summary of the Bureau of Foreign and Domestic Commerce, except that for 1909–1912, inclusive; the quantities given therein have been diminished by the quantity of zinc dust imported since Aug. 6, 1909, for the reason that the imports of spelter and zinc dust for that period were not separated in the Summary. The imports of spelter do not include sheet zinc, but include a few hundred tons of old zinc, fit only for remanufacturing. The stock in bonded warehouses does not include zinc ore in bond or the spelter made therefrom, such spelter being included in stock at smelters.

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EXPORTS.

Zinc exported from the United States, by 6-month periods, 1914–1916, by classes.

Material.	1914				1915				1916			
	January–June.		July–December.		January–June.		July–December.		January–June.		July–December.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
DOMESTIC.												
Zinc ore	16,082,200	$275,184	6,137,000	$113,280	1,755,200	$24,791	300,120	$10,483	67,200	$4,792	80,600	$7,200
Spelter and sheets	1,659,858	100,637	127,854,164	8,440,011	128,748,842	11,627,208	108,470,413	17,940,353	116,014,559	20,675,660	210,260,527	30,737,930
Zinc dross	572,477	29,084	4,498,200	211,560	5,861,240	445,227	2,479,253	164,569	56,025	3,648	40,550	1,721
Zinc dust		82,254		128,654		1,047,978		1,125,144		301,152		267,854
Zinc manufactures	13,553,666	1,437,763	7,103,738	660,107	8,862,272	917,599	2,594,401	346,742	2,568,000	377,884	4,488,282	777,191
Zinc, old, for remanufacturing	3,054,938	443,187	4,659,860	468,996	54,241,508	5,661,217	70,650,806	6,752,689	103,685,353	28,917,074	111,440,310	13,766,592
Zinc, bars, plates, and sheets		1,862,815		1,804,372		10,971,990		30,195,781		98,110,795		171,557,289
Zinc articles made from		1,696,415		4,670,707		13,043,498		11,771,181		74,718,007		30,381,097
FOREIGN.												
Zinc ore, contents	779,040	5,909										
Zinc, blocks, pigs, and old	55,115	7,634	10,325,453	299,862	11,408,033	336,390	14,142,951	2,110,571	40,393,441	4,184,227	46,061,051	3,920,115
Zinc sheets	34,212	1,775	922,030	15,091	227,408	22,680	204,427	30,707	827,671	29,537	252,900	23,333
Zinc manufactures		53		18,491		64,121		64,980		1,672		
Zinc, old, for remanufacturing	12,650	1,586	1,068	135								
Zinc used in articles exported with benefit of drawback	3,761,879	a 198,400	6,200,279	a 330,500	510,678	a 65,000						
		6,237,416		17,162,383		14,655,252		70,479,204		177,341,760		253,456,204

a Represents the value of the metal used in making the articles exported with benefit of drawback.

Spelter and sheet zinc exported from the United States, by 6-month periods, 1914–1916, by destination, in short tons.

Destination.	1914				1915				1916			
	January–June.		July–December.		January–June.		July–December.		January–June.		July–December.	
	Domestic.	Foreign.	Domestic.	Foreign.	Domestic.	Foreign.	Domestic.	Foreign.	Domestic.	Foreign.	Domestic.	Foreign.
Canada		107	3,383	579	2,918	382	6,561	203	4,574	618	5,684	70
United Kingdom	45		40,862	2,397	31,100	3,477	23,452	1,645	19,185	6,484	41,241	12,370
Netherlands							12		6		3	
France			8,493	1,502	15,849	1,396	9,400	4,668	18,834	11,178	33,000	8,287
Italy			1,631		2,715	448	6,031	504	6,807	1,901	8,274	2,032
Germany	54											
Russia	667		4,152		6,671		5,420		3,719		8,667	171
Japan			456		187		470		910		977	
Other countries	34		5,079	75	4,926	1	3,063	51	5,779		8,083	153
	800	107	63,977	5,413	64,368	5,704	64,215	7,071	58,007	20,198	105,130	23,032

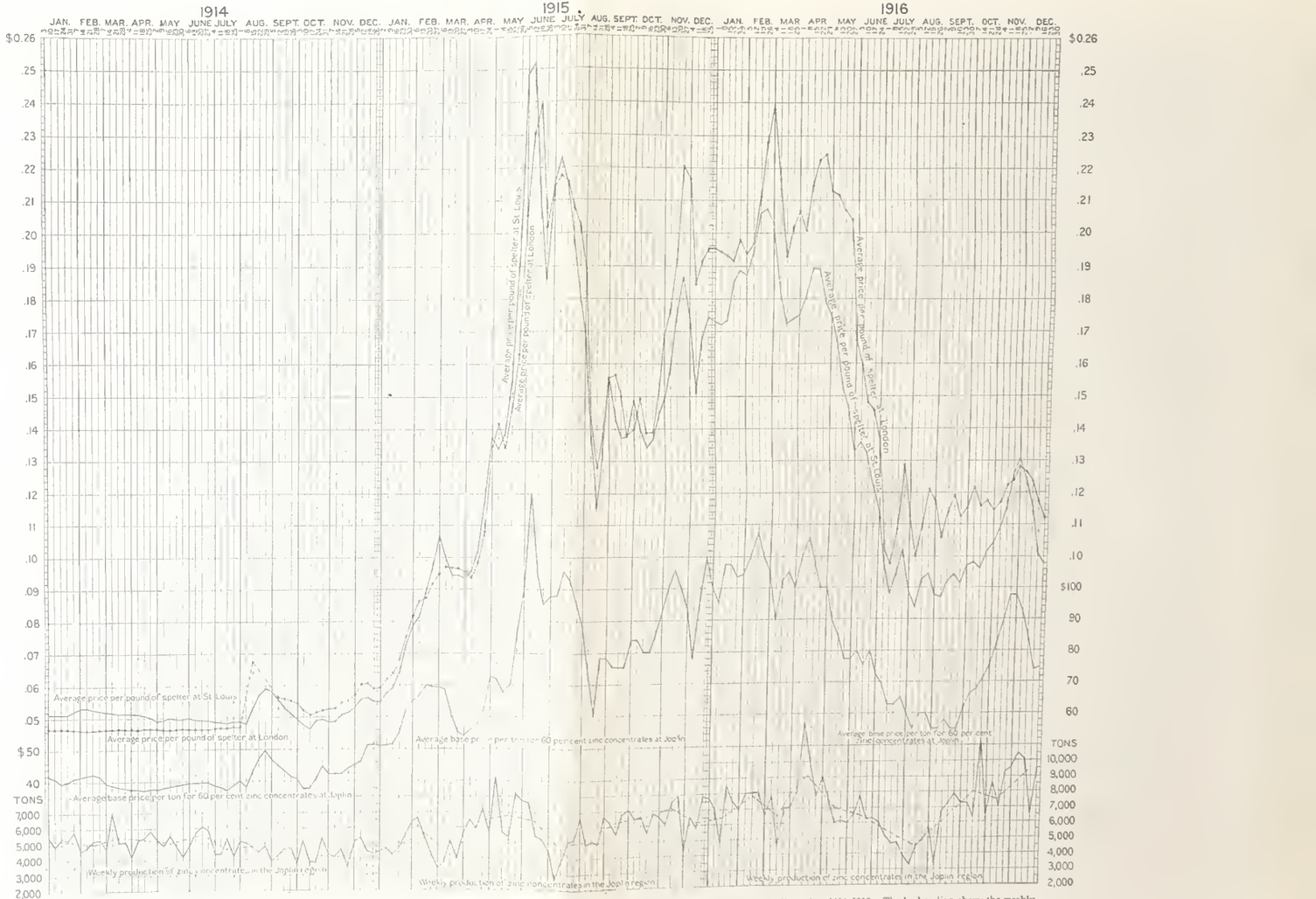
Spelter and sheet zinc exported from the United States, by months, 1914–1916, in short tons.

Month.	1914			1915			1916		
	Domestic.	Foreign.	Foreign zinc used in articles exported with benefit of drawback.	Domestic.	Foreign.	Foreign zinc used in articles exported with benefit of drawback.	Domestic.	Foreign.	Foreign zinc used in articles exported with benefit of drawback.
January	200	28		15,299	84		10,483	3,331	
February	15			15,907	2,016		10,228	3,219	
March	146		1,881	8,120	1,136	235	8,171	876	
April	60			5,842	77		9,132	1,007	
May	107	112		7,655	1,104		8,833	4,841	
June	209	27		9,470	1,246		11,209	5,409	
July	137			6,466	1,516		17,769	6,593	
August	3,448	319		7,274	421		18,662	4,232	
September	19,045	1,120	3,100	8,633	1,513		19,125	993	
October	10,259	1,140		12,993	605		19,994	6,116	
November	12,747	922		10,019	2,343		15,985	1,269	
December	18,271	1,577		9,701	310		15,657	2,859	
	64,807	5,550	4,981	118,603	12,776	235	163,137	43,220	

IMPORTS.

Zinc ore imported into the United States, 1914–1916.

Source.	1914			1915			1916		
	Ore (short tons).	Zinc content (short tons).	Value.	Ore (short tons).	Zinc content (short tons).	Value.	Ore (short tons).	Zinc content (short tons).	Value.
Canada							21,908	8,160	$597,260
Mexico	11,250	4,467	$143,247	11,992	4,710	$157,958	161,271	51,028	5,759,564
France	20,765	7,663	229,209	57,699	17,964	2,129,614	3,884	1,422	99,542
Spain							56,956	23,601	1,500,338
Italy							12,599	5,783	391,782
French Africa				5,312	2,125	153,388	4,490	1,857	122,154
French East Indies							1,654	746	55,407
China and Hongkong							9,641	4,668	344,192
Japan				5,890	2,708	119,913			
Australia				1,360	492	77,809	110,600	42,651	3,117,301
New Zealand				76,440	29,725	1,845,891	2,262	911	103,840
Other countries	7	2	57	197	80	7,663	750	271	20,968
	31,962	12,132	372,743	159,852	57,609	4,510,546	385,964	148,147	12,121,355



Average weekly price of spelter at St. Louis and London and of 60 per cent zinc concentrates at Joplin and weekly production (sales) of zinc concentrates in the Joplin region, 1914–1916. The broken line shows the weekly sales, averaged by months.

ACTIVE ZINC SMELTERS IN THE UNITED STATES.

[Includes plants working on ore alone, on ore and drosses, and on drosses alone.]

Operating company. (A=acid plant; not necessarily at the smelter.)	Location.	Retorts at close of 1915.	Retorts June 30, 1916.	Retorts at close of 1916.	Additional retorts contemplated or under construction
ARKANSAS.					
Arkansas Zinc & Smelting Corporation	Van Buren		2,400	3,200	
Athletic Mining & Smelting Co	Fort Smith				2,400
Fort Smith Spelter Co	do		2,560	2,560	
			4,960	5,760	2,400
COLORADO.					
United States Zinc Co	Pueblo	2,208	1,944	1,984	264
ILLINOIS.					
American Zinc Co. of Illinois (A)	Hillsboro	4,000	4,864	4,864	
Collinsville Zinc Smelter	Collinsville	1,792	2,304	2,304	
Granby Mining & Smelting Co. (A)	East St. Louis	3,220	3,220	4,820	800
Hegeler Zinc Co. (A)	Danville	3,600	5,400	5,400	
Illinois Zinc Co. (A)	Peru	4,640	4,640	4,640	800
Matthiesson & Hegeler Zinc Co. (A)	La Salle	6,168	6,168	6,168	
Missouri Zinc Co	Beckemeyer	352	352	352	
Mineral Point Zinc Co. (A)	Depue	9,068	9,068	9,068	
National Zinc Co. (A)	Springfield	3,200	4,480	4,480	
Robert Lanyon Zinc & Acid Co. (A)	Hillsboro	1,840	3,200	3,200	
Sandoval Zinc Co	Sandoval	672	672	672	672
		38,552	44,368	45,968	2,272
KANSAS.					
American Spelter Co	Pittsburg	896	992	992	
American Zinc, Lead & Smelting Co	Caney	6,080	6,080	6,080	
Do	Dearing	4,480	4,480	4,480	
Cbanute Spelter Co	Chanute	1,280	1,280	1,280	
Cherokee Smelting Co	Bruce	896	896	896	
Edgar Zinc Co	Cherryvale	4,800	4,800	4,800	240
Granby Mining & Smelting Co	Neodesha	3,760	3,760	3,760	
Iola Zinc Co	Concreto	660	1,320	1,320	
Joplin Ore & Spelter Corporation	Pittsburg	1,444	1,792	1,792	
Lanyon Smelting Co	do	448	448	448	
Owen Zinc Co	Caney	1,280	1,280	1,920	
Pittsburg Zinc Co	Pittsburg	910	910	910	
Prime Western Spelter Co. (A)	Gas	4,868	4,868	4,868	
United States Smelting Co	Altoona	3,960	4,600	4,600	
Do	Iola	3,440	3,440	3,440	
Do	La Harpe	1,924	1,924	1,926	
Weir Smelting Co	Weir			288	
		41,126	42,870	43,800	240
MISSOURI.					
Edgar Zinc Co	St. Louis	2,000	2,000	2,000	
Missouri Zinc Smelting Co	Rich Hill		448	448	
Nevada Smelting Co	Nevada	672	672	672	
		2,672	3,120	3,120	
OKLAHOMA.					
Bartlesville Zinc Co	Bartlesville	5,184	6,336	6,336	
Do	Blackwell		1,600	9,600	
Do	Collinsville	10,752	13,440	13,440	
Bartlesville Zinc Co. (Lanyon-Starr plant)	Bartlesville	3,456	3,456	3,456	
Eagle-Picher Lead Co	Henryetta			4,000	
Henryetta Spelter Co	do		3,000	3,000	
Kusa Spelter Co	Kusa	3,720	7,720	7,720	
National Zinc Co	Bartlesville	4,970	4,970	4,970	
Oklahoma Spelter Co	Kusa		1,600	1,600	
Quinton Spelter Co	Quinton			1,344	1,344
Tulsa Fuel & Manufacturing Co	Collinsville	6,232	6,232	6,232	
United States Smelting Co	Checotah		2,560	5,120	
United States Zinc Co	Sand Springs	5,680	8,000	8,000	200
Western Spelter Co	Henryetta			2,400	
		39,994	58,914	77,218	1,544
PENNSYLVANIA.					
American Steel & Wire Co. (A)	Donora	3,648	9,120	9,120	
American Zinc & Chemical Co. (A)	Langeloth	3,648	6,384	7,296	
New Jersey Zinc Co. (of Pennsylvania)	Palmerton	6,720	6,960	7,200	
		14,016	22,464	23,616	
WEST VIRGINIA.					
Clarksburg Zinc Co	Clarksburg	3,648	3,648	3,648	
Grasselli Chemical Co. (A)	do	5,760	5,760	5,760	
Do	Meadowbrook	8,592	8,592	8,544	
United Zinc Smelting Corporation (A)	Moundsville				6,912
		18,000	18,000	17,952	6,912
		156,568	196,640	219,418	13,632
PLANTS WITH SPECIAL RETORTS.[a]					
Eastern Zinc Refining Co	Brooklyn, N. Y.			8	16
John Finn Metal Works	San Francisco, Cal.			2	1
Michael Hayman & Co	Buffalo, N. Y.	12	12	12	
M. M. S. Metal Co	Trenton, N. J.		21	21	
Trenton Smelting & Refining Co	do	96	96	96	
William Cramp & Sons Ship & Engine Building Co.	Philadelphia, Pa.	32	32	32	
Total large retorts		140	161	171	17

[a] Large graphite retorts yielding 600–800 pounds of spelter per charge.

ZINC-SMELTING CAPACITY.

The zinc-smelting capacity of the United States continued to expand during the later half of 1916, the total number of retorts at the beginning of the year being 156,568, at the midyear 196,640, and at the end of the year 219,418, when, also, 13,632 retorts were under construction or contemplated. The 219,418 retorts reported at the end of the year, at an annual yield under average conditions of 4 tons of prime western spelter each, would have a capacity of over 875,000 tons as compared with the capacity of 825,000 tons estimated in April, 1916, for the end of the year. This statement means that, given the ore, the smelters could produce 875,000 tons of prime western spelter in 1917, not that they will do so. In view of the account in the Engineering and Mining Journal of March 31, 1917, of the 10 years' run of a furnace at Cherryvale, Kans., which had a yearly average of 4.86 tons per retort, the Geological Survey's estimate of 4 tons per retort under average conditions will probably not be considered excessive.

In 1916, as in 1915, a large number of retorts were engaged in refining prime western spelter by redistillation and were therefore not available to treat ore. A considerable number of retorts were idle during the year, over 11,500 being idle December 31. Thirteen zinc smelters were started and brought to an operating stage during the year and two more were begun. A feature of this smelter building has been the rapidity and secrecy with which gas smelters have been built in the Southwest. So far as known to the writer, the Western Spelter Co.'s plant at Henryetta, Okla., owned by the Nicholson interests, reached an operating stage before it was mentioned in the technical press. It is reported that the Grasselli Chemical Co. is building a zinc-smelting and acid plant at Terre Haute, Ind., but the United States Geological Survey has not yet been able to learn the details of the plant. In October the Kusa and La Harpe plants at Kusa, Okla., were consolidated as the Kusa Spelter Co.

ELECTROLYTIC ZINC PLANTS.

The capacity of the electrolytic zinc plants in the United States at the end of 1916 hardly came up to the Geological Survey's estimate of 60,000 tons, owing to the failure to complete some plants. Electrolytic plants were in reality producing at the rate of 40,000 tons annually, but with the completion of plants now under construction the capacity will be about 85,000 tons. The production of electrolytic spelter in 1916 was 12,916 tons, of which 1,800 tons was refined from prime western spelter, 887 tons was refined from scrap and drosses, and 10,229 tons was made from ore.

Electrolytic zinc plants in the United States.

Company.	Location of plant.	Daily spelter capacity.	Remarks.
American Smelting & Refining Co.	Murray, Utah	Experimental	Operated in 1916.
Anaconda Copper Mining Co.	Anaconda, Mont.	25 tons	Operated in 1915–16; now idle.
Do	Great Falls, Mont.	200 tons	Under construction: 100 tons in operation at end of 1916.
Basin Salvage Co	Basin, Mont.	Experimental	Under construction.
Bully Hill Copper Co	Bully Hill, Cal.	do	Operated in 1915–16.
Electrolytic Zinc Co	Baltimore, Md.	10 tons	Operated in 1916.
Judge Mining & Smelting Co.	Park City, Utah	15 tons	Completed March, 1917.
Mammoth Copper Mining Co.	Kennett, Cal.	25 tons	Will be completed by May, 1917
Reed Zinc Co	Palo Alto, Cal.	Experimental	Operated in 1914–15; idle in 1916.
River Smelting & Refining Co.	Keokuk, Iowa	10 tons	Operated in 1916.
Western Metals Co	Georgetown, Colo.	Ore capacity, 100 tons	Midm process; under construction.

PRICES AND VALUE.

In 1915 the average price quoted for prime western spelter for immediate delivery at St. Louis was 14.2 cents a pound. Large quantities of spelter were sold for future delivery at considerable reductions in price. Returns from each producer showed an average price received of 12.4 cents. In 1916 the average price quoted for spelter for immediate delivery at St. Louis was 13.6 cents a pound, and the average price received for spelter of all qualities—prime western, brass special, and high grade—was 13.4 cents. The smaller difference between the price quoted and the price received in 1916 is probably due to increase in domestic consumption, to decrease in sales for future delivery, and to the production of a larger proportion of high-grade spelter.

EXPLANATORY NOTE.

The figures given in the foregoing tables are based on confidential reports made to the United States Geological Survey by each zinc-smelting company in operation in the United States. The figures showing the imports and exports are taken from the records of the Bureau of Foreign and Domestic Commerce of the Department of Commerce, recalculated to short tons, and those for 1916, not having been finally checked, are subject to minor revision. This statement is designed to afford at the earliest practicable date authentic statistics of the production of spelter in the United States in 1916. The cooperation of the operators of zinc smelters is cordially acknowledged.

C. E. SIEBENTHAL.

WASHINGTON, D. C., *April 6, 1917.*

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In 1916, as in 1915, a large number of retorts were engaged in refining prime western spelter by redistillation and were therefore not available to treat ore. A considerable number of retorts were idle during the year, over 11,500 being idle December 31. Thirteen zinc smelters were started and brought to an operating stage during the year and two more were begun. A feature of this smelter building has been the rapidity and secrecy with which gas smelters have been built in the Southwest. So far as known to the writer, the Western Spelter Co.'s plant at Henryetta, Okla., owned by the Nicholson interests, reached an operating stage before it was mentioned in the technical press. It is reported that the Grasselli Chemical Co. is building a zinc-smelting and acid plant at Terre Haute, Ind., but the United States Geological Survey has not yet been able to learn the details of the plant. In October the Kusa and La Harpe plants at Kusa, Okla., were consolidated as the Kusa Spelter Co.

ELECTROLYTIC ZINC PLANTS.

The capacity of the electrolytic zinc plants in the United States at the end of 1916 hardly came up to the Geological Survey's estimate of 60,000 tons, owing to the failure to complete some plants. Electrolytic plants were in reality producing at the rate of 40,000 tons annually, but with the completion of plants now under construction the capacity will be about 85,000 tons. The production of electrolytic spelter in 1916 was 12,916 tons, of which 1,800 tons was refined from prime western spelter, 887 tons was refined from scrap and drosses, and 10,229 tons was made from ore.

Electrolytic zinc plants in the United States.

Company.	Location of plant.	Daily spelter capacity.	Remarks.
American Smelting & Refining Co.	Murray, Utah	Experimental	Operated in 1916.
Anaconda Copper Mining Co.	Anaconda, Mont.	25 tons	Operated in 1915–16; now idle.
Do	Great Falls, Mont.	200 tons	Under construction; 100 tons in operation at end of 1916.
Basin Salvage Co.	Basin, Mont.	Experimental	Under construction.
Bully Hill Copper Co.	Bully Hill, Cal.	do	Operated in 1915–16.
Electrolytic Zinc Co.	Baltimore, Md.	10 tons	Operated in 1916.
Judge Mining & Smelting Co.	Park City, Utah	15 tons	Completed March, 1917.
Mammoth Copper Mining Co.	Kennett, Cal.	25 tons	Will be completed by May, 1917.
Reed Zinc Co.	Palo Alto, Cal.	Experimental	Operated in 1914–15; idle in 1916.
River Smelting & Refining Co.	Keokuk, Iowa	10 tons	Operated in 1916.
Western Metals Co.	Georgetown, Colo.	Ore capacity, 100 tons.	Malm process; under construction.

PRICES AND VALUE.

In 1915 the average price quoted for prime western spelter for immediate delivery at St. Louis was 14.2 cents a pound. Large quantities of spelter were sold for future delivery at considerable reductions in price. Returns from each producer showed an average price received of 12.4 cents. In 1916 the average price quoted for spelter for immediate delivery at St. Louis was 13.6 cents a pound, and the average price received for spelter of all qualities—prime western, brass special, and high grade—was 13.4 cents. The smaller difference between the price quoted and the price received in 1916 is probably due to increase in domestic consumption, to decrease in sales for future delivery, and to the production of a larger proportion of high-grade spelter.

EXPLANATORY NOTE.

The figures given in the foregoing tables are based on confidential reports made to the United States Geological Survey by each zinc-smelting company in operation in the United States. The figures showing the imports and exports are taken from the records of the Bureau of Foreign and Domestic Commerce of the Department of Commerce, recalculated to short tons, and those for 1916, not having been finally checked, are subject to minor revision. This statement is designed to afford at the earliest practicable date authentic statistics of the production of spelter in the United States in 1916. The cooperation of the operators of zinc smelters is cordially acknowledged.

C. E. Siebenthal.

Washington, D. C., *April 6, 1917.*